PROFITABILITY DETERMINANTS OF GHANAIAN BANKS – A CASE STUDY OF CAL BANK LIMITED

BY

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DECLARATION

I hereby declare that this submission is my own work towards the Master of Business Administration degree and that, to the best of my knowledge, it contains no material previously published by another person or material which has been accepted for the award of any other degree of this and any other university, except where due knowledge has been made in the text.

Justice Kwame Mpesum	.... Signature	28th April, 2009 .... Date
Certified by:		
Mr. J. M. Frimpong	.... Signature	19-10-09 .... Date
Certified by:		
Head of Department	.... Signature	19-10-09 .... Date

DEDICATION

Dedicated to myself and God Almighty.

ACKNOWLEDGEMENT

I wish to acknowledge the immense contribution of the following persons and organisations in ensuring the successful completion of this dissertation:

Mr. Joseph Magnus Frimpong, my supervisor, an accomplished researcher in economics and the dean of the School of Business, Kwame Nkrumah University of Science and Technology.

My course mates and discussion group mates, Carruthers Dzramedo, Uncle Abbeiku Mayne-Eghan, Ben Asare, George Imbrah, Barry Amamo, Helena Boakye Ike, Atala and Abraham Akosah, who contributed immensely in helping me grasp the fundamentals of this program and the completion of this work.

The management of Cal Bank Limited, who provided the required information for the completion of this work.

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God Almighty, my Maker who has been the source of everything I have accomplished. I will forever owe him the highest praise.

ABSTRACT

The objective of this project was to identify the factors which affect the profitability of Ghanaian banks in the Ghanaian banking industry and to identify the relationship between these factors and how they impact on each other using the Structure-Conduct-Performance model. It also set out to identify the factors which can be controlled by the banks and how their profitability can be improved.

In achieving these objectives, a case study of Cal Bank Limited was chosen. The choice of Cal Bank Limited was made to represent indigenous Ghanaian banks as it was the only Ghanaian bank listed on the Ghana stock exchange. Secondly its performance upon enlistment had generated interest in the investor community.

In setting out to identify the significant factors which determine the profitability of the bank, the researcher studied the bank's internal environment, the competition within the industry and inflation as possible factors. Variables were calculated from the bank's financial statements to serve as proxies for these determinants. These individual variables were compared with the profitability of the bank. The study revealed that industry concentration was a major determinant of the bank's profitability. Over the study period, competition for deposits which was measured by the Herfindhal-Hirschmann index was increasingly inversely related to the profitability of the bank i.e. as concentration increased, the profitability of the bank decreased.

It is therefore important that management of the bank place emphasis on improving their market share in the industry deposits in order to transform more of these deposits into interest-bearing assets which in turn will increase its profitability.

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CHAPTER ONE

1.0 Introduction

During the last two decades the banking sector has experienced worldwide major transformations in its operating environment. Both external and domestic factors have affected its structure and performance. Despite the increased trend toward bank disintermediation observed in many countries, the role of banks remains central in financing economic activity in general and different segments of the market in particular. A sound and profitable banking sector is better able to withstand negative shocks and contribute to the stability of the financial system. Therefore, the determinants of bank performance have attracted the interest of academic research as well as of bank management, financial markets and bank supervisors (Athanasoglou *et al*, 2005).

Athanasoglou *et al.*, (2005) in their research did the following classification: the group of the bank-specific determinants of profitability involved operating efficiency and financial risk. Size was also included to account for the effect of economies of scale. The second group of determinants described industry-structure factors that affect bank profits, which are not the direct result of managerial decisions. These were industry concentration and the ownership status of the banks. The Structure-Conduct- Performance hypothesis figures prominently among theories that relate market power to bank profitability. The third group of determinants related profitability to the macroeconomic environment within which the banking system operates.

Following Ghana's stable political and macro economy, foreign banks have entered into the domestic banking sector and these banks bring with them the advantages of capital and financial innovation (BOG, 2006).

1.1 Study Background

Financial systems tend to evolve around a banking sector seeking to achieve economies of scale in order to offset the costs of collecting and processing information designed to reduce uncertainty, thereby facilitating a more efficient allocation of financial resources. In well functioning economies, banks tend to act as quality controllers for capital-seeking successful projects, ensuring higher returns and accelerating output growth (Buchs *et al,* 2005).

Banks exist for the purposes of safekeeping transactions and portfolio management to make profits and provide better services to their customers (Adjei-Tufuor *et al,* 2005). The majority of studies on bank profitability, such as Short (1979), Bourke (1989), Molyneux and Thornton (1992), Demirguc-Kunt and Huizinga (2000) and Goddard *et al.* (2004), use linear models to estimate the impact of various factors that may be important in explaining profits.

According to Naceur B.S. (2003), studies on the determinants of bank's interest margin and profitability have focused whether on a particular country (Berger, 1995; Guru *et al,* 2002; Barajas *et al,* 2001; Ben Naceur and Goaied, 2001) and on a panel of countries (Abreu and Mendes, 2002; Demirguç-Kunt and Huizingha, 1999).

Ben Naceur and Goaied (2001) investigate the determinants of the Tunisian bank's performances during the period 1980-1995. They indicate that the best performing banks are those who have struggled to improve labor and capital productivity, those who have maintained a high level of deposit accounts relative to their assets and finally, those who have been able to reinforce their equity.

Guru *et al.* (2002) attempt to identify the determinants of successful deposit banks in order to provide practical guides for improved profitability performance of these institutions.

According to Buchs *et al.* (2005), profitability indicators indicate that, despite high overhead costs and sizable provisioning, Ghanaian banks' pretax returns on assets and equity are among the highest in sub-Saharan Africa a situation that reflects very wide interest margins.

1.2 Problem Statement

The research undertaken has focused on profitability analysis of either cross-country or individual countries' banking systems. The first group of studies includes Haslem (1968), Short (1979), Bourke (1989), Molyneux and Thornton (1992) and Demirguc-Kunt and Huizinga (2000). A more recent study in this group is Bikker and Hu (2002), though it is different in scope; its emphasis is on the bank profitability business cycle relationship. Studies in the second group mainly concern the banking system in the US (e.g. Berger *et al.*, 1987 and Neely and Wheelock, 1997) or the emerging market economies (e.g. Barajas *et al.*, 1999). Athanasoglou *et al*, (2005) state that all of the above studies examine combinations of internal and external determinants of bank profitability. The empirical results vary significantly, since both datasets and environments differ. There exist, however, some common elements that allow a further categorization of the determinants.

This study focuses on identifying the determinants of profitability in the banking industry of a developing country such as Ghana. Secondly, published studies with respect to the determinants of profitability of individual banks in Ghana are rare thus this work seeks to contribute to knowledge in this area.

1.3 Research Objectives

The following are the objectives of this study:

To identify the major underlying factor(s) affecting profitability in the banking industry in Ghana.

To identify the relationship between these factors and how they impact on each other.

1.4 Research Questions

i. Which factors of profitability can be controlled by the banks?

ii. How can their profitability be improved?

1.5 Significance of the Study

A sound and profitable banking sector is better able to withstand negative shocks and contribute to the stability of the financial system. Therefore, the determinants of bank performance have attracted the interest of academic research as well as of bank management, financial markets and bank supervisors (Athanasoglou *et al,* 2005).

According to Nacuer (2003), most of the studies on bank performance are conducted in the US and emerging markets. Due to the key role of banks as financial intermediaries, facilitating the efficient allocation of funds in the economy, their survival and profitability has become increasingly important in ensuring their ability to continue playing their role in the economy. It has become even more necessary in a developing economy like that of Ghana which is still undergoing metamorphosis.

It will help banks and policy-makers to identify factors which contribute to enhancing shareholder value and the extent to which these factors impact on the performance of banks and those formulating the appropriate strategies and policies.

1.6 Organization of the Study

The paper proceeds as follows; the study background, significance of the study, research objectives, conceptual framework limitations, direction for future research of the study are introduced in chapter 1. The factors or determinants of profitability of banks are reviewed followed by a discussion of the research models used in the study and why the linear regression model viewed as the best of the models used in the research in chapter 2. Chapter 3 presents the outline of the research methodology. The result and analysis of the study is presented in chapter 4. From the findings, summary, conclusion and recommendations are provided in the last chapter i.e. Chapter 5.

1.7 Limitations

This section acknowledges the limitations inherent in this research. The major limitation of this research is that, it concentrated on only one bank i.e. the Cal Bank. Cal Bank is not the only Ghanaian commercial bank in Ghana and so does not fully reflect the variables affecting the profitability of the remaining banks operating in Ghanaian economy thus limiting generalization. However, Cal Bank was chosen due to its performance in recent times which attracted take-over attempts and the increased interest of its shareholders in its operations relative to other commercial banks operating in Ghana.

Secondly Cal Bank is an indigenous Ghanaian bank listed on the Ghana Stock Exchange with a relatively good performance thus a study of Cal Bank may serve the interest of other indigenous Ghanaian banks in Ghana.

The researcher was compelled to select only one bank for the research due to time constraints in completing the research.

CHAPTER TWO

2.0 Literature Review

2.1 Introduction

This chapter places the study within the context of previous research. It throws more light on the topic under study and lends support to the rationale and relevance of the study. It touches on other related works.

Banks provide safekeeping, liquidity, and payment services for depositors, and perform credit analysis, disburse loanable funds, and monitor outstanding credits for borrowers using very similar technologies.

2.2 Determinants of Profitability

Empirical studies of banking competition and performance are summarized in two paradigms: the Structure-Conduct-Performance (SCP) paradigm (Bain, 1951) and New Economic Industrial Organisation (NEIO) paradigm (Bresnahan, 1989).

Theory tells us that there is a relationship between market structure and firm performance. Namely market structures of a large number of firms will be expected to perform differently than markets with a small number of firms, especially markets controlled by a few large firms or one dominant firm. The market structure can be measured in three ways: by the number of firms in the market; by the distribution of the firms market share; and by various concentration measures (in banking the most common measures are the three and five-firm deposit or assets concentration ratio, Molyneux et al. 1996)

The SCP paradigm measures the impact of observable market or industry parameters on the conduct and performance of market participants. Early SCP studies have applied a broad range of proxies for market structure and market performance: the relationship between the buyer and the seller costs, the degree of product differentiation, the degree of concentration within a market place, the degree of market share and the entry conditions for potential new firms, for market concentration; and the relation of rates of returns to assets, the scale of the costs of selling and efficiencies for market performance. Recent studies have applied a host of other proxies, such as risk, leverage, buyer and seller concentration and foreign competition (Maniatis, 2006).

Financial systems tend to evolve around a banking sector seeking to achieve economies of scale in order to offset the costs of collecting and processing information designed to reduce uncertainty, thereby facilitating a more efficient allocation of financial resources. In well-functioning economies, banks tend to act as quality controllers for capital seeking successful projects, ensuring higher returns and accelerating output growth. However, a competitive banking system is required to ensure that banks are effective forces for financial intermediation channeling savings into investment fostering higher economic growth (Buchs and Mathisen, 2005).

Athanasoglou *et al* (2005), in their literature review stated that bank profitability is usually expressed as a function of internal and external determinants. The internal determinants originate from bank accounts (balance sheets and/or profit and loss accounts) and therefore could be termed micro or bank-specific determinants of profitability. The external determinants are variables that are not related to bank management but reflect the economic and legal environment that affects the operation and performance of financial institutions. A number of explanatory variables have been proposed for both categories, according to the nature and purpose of each study. Studies dealing with internal determinants employ variables such as size, capital, risk management and expenses management. Size is introduced to account for existing economies or diseconomies of scale in the market. Akhavein *et al.* (1997) and Smirlock (1985) find a positive and significant relationship between size and bank profitability. Demirguc-Kunt and Maksimovic (1998) suggest that the extent to which various financial, legal and other factors (e.g. corruption) affect bank profitability is closely linked to firm size. In addition, as Short (1979) argues, size is closely related to the capital adequacy of a bank since relatively large banks tend to raise less expensive capital and, hence, appear more profitable. Using similar arguments, Haslem (1968), Short (1979), Bourke (1989), Molyneux and Thornton (1992) Bikker and Hu (2002) and Goddard *et al.* (2004), all link bank size to capital ratios, which they claim to be positively related to size, meaning that as size increases – especially in the case of small to medium-sized banks – profitability rises. However, many other researchers suggest that little cost saving can be achieved by increasing the size of a banking firm (Berger *et al.*, 1987), which suggests that eventually very large banks could face scale inefficiencies.

In a comprehensive study Demirguç-Kunt and Huizingha (1999) examine the determinants of bank interest margins and profitability using a bank level data for 80 countries in the 1988-1995 period. The set of variables includes several factors accounting for bank characteristics, macroeconomic conditions, taxation, regulations, financial structure and legal indicators. They report that a larger ratio of bank assets to GDP and a lower market concentration ratio lead to lower margins and profits. Foreign banks have higher margins and profits than domestic banks on developing countries, while the opposite prevail in developed countries. On another linked paper, Demirguç-Kunt and Huizingha (2001) present evidence on the impact of financial development and structure on bank profitability using bank level data for a large number of developed and developing countries over the 1990-1997 period. The paper finds that financial development has a very important impact on bank performance. Specifically, the paper reports that higher bank development is related to lower bank performance (tougher competition explains the decrease of profitability). Stock market development on the other hand, leads to increased profits and margins for banks especially at lower levels of financial development, indicating complementarities between bank and stock market.

Ben Naceur and Goaied (2001) investigate the determinants of the Tunisian bank's performances during the period 1980-1995. They indicate that the best performing banks are those who have struggled to improve labor and capital productivity, those who have maintained a high level of deposit accounts relative to their assets and finally, those who have been able to reinforce their equity.

Guru *et al.* (2002) attempt to identify the determinants of successful deposit banks in order to provide practical guides for improved profitability performance of these institutions. The study is based on a sample of seventeen Malaysian commercial banks over the 1986-1995 period. The profitability determinants were divided in two main categories, namely the internal determinants (liquidity, capital adequacy and expenses management) and the external determinants (ownership, firm size and external economic conditions). The findings of this study revealed that efficient expenses management was one of the most significant in explaining high bank profitability. Among the macro-indicators, high interest ratio was associated with low bank profitability and inflation was found to have a positive effect on bank performance.

A study by Naceur (2003) investigated the impact of bank's characteristics, financial structure and macroeconomic indicators on bank's net interest margins and profitability in the Tunisian banking industry for the 1980-2000 period. He identified the following; first, individual bank characteristics explain a substantial part of the within-country variation in bank interest margins and net profitability. High net interest margin and profitability tend to be associated with banks that hold a relatively high amount of capital, and with large overheads. Other important internal determinants of bank's interest margins bank loans which have a positive and significant impact. The size has mostly negative and significant coefficients on the net interest margins. This latter result may simply reflect scale inefficiencies. Second, the paper finds that the macro-economic indicators such inflation and growth rates have no impact on bank's interest margins and profitability. Third, turning to financial structure and its impact on bank's interest margin and profitability, it was found that concentration is less beneficial to the Tunisian commercial banks than competition. Stock market development has a positive effect on bank profitability. This reflects the complementarities between bank and stock market growth. The disintermediation of the Tunisian financial system is favorable to the banking sector profitability.

Studies on the determinants of bank's interest margin and profitability have focused whether on a particular country (Berger, 1995; Guru *et al.,* 2002; Barajas *et al.,* 2001; Ben Naceur and Goaied, 2001) and on a panel of countries (Abreu and Mendes, 2002; Demirguç-Kunt and Huizingha, 1999).

2.3 Panel Country Studies

Molyneux and Thornton (1992) were the first to explore thoroughly the determinants of bank profitability on a set of countries. They use a sample of 18 European countries during the 1986-1989 period. They find a significant positive association between the return on equity and the level of interest rates in each country, bank concentration and government ownership.

Abreu and Mendes (2002) investigate the determinants of bank's interest margins and profitability for some European countries in the last decade. They report that well capitalized banks face lower expected bankruptcy costs and this advantage "translate" into better profitability. Although with a negative sign in all regressions, the unemployment rate is relevant in explaining bank profitability. The inflation rate is also relevant.

Bashir (2000) examines the determinants of Islamic banks' performance across eight Middle Eastern countries for 1993-1998 period. A number of internal and external factor were used to predict profitability and efficiencies. Controlling for macroeconomic environment, financial market situation and taxation, the results show that higher leverage and large loans to asset ratios, lead to higher profitability. The paper also reports that foreign-owned banks are more profitable that the domestic one. There is also evidence that taxation impacts negatively bank profitability. Finally, macroeconomic setting and stock market development have a positive impact on profitability.

The main studies on the determinants of bank's performance in emerging countries were carried out in Colombia (Barajas *et al.,* 1999), Brasil (Afanasieff *et al.,* 2002), Malaysia (Guru *et al.,* 2002) and Tunisia (Ben Naceur and Goaied, 2001). Barajas *et al.* (1999) document significant effects of financial liberalization on bank's interest margins for the Colombian case. Although the overall spread has not declined after financial reform, the relevance of the different factors behind the bank spreads were affected by such measures.

Bank loans are expected to be the main source of income and are expected to have a positive impact on bank performance. Other things constant, the more deposits are transformed into loans, the higher the interest margin and profits (Naceur, 2003). Well-capitalized banks have higher net interest margins and are more profitable. This is consistent with the fact that banks with higher capital ratios have a lower cost of funding because of lower prospective bankruptcy costs. Differences in a bank's activity mix affect spread and profitability. Banks with relatively high noninterest-earning assets are less profitable. Also, banks that rely largely on deposits for their funding are less profitable, as deposits require more branching and other expenses. In developing countries foreign banks have greater margins and profits than domestic banks. In industrial countries, the opposite is true. Legal and institutional differences matter. Indicators of better contract enforcement, efficiency in the legal system, and lack of corruption are associated with lower realized interest margins and lower profitability (Demirguç-Kunt and Huizingha, 1999).

2.4 OVERVIEW OF THE GHANAIAN BANKING SYSTEM

2.4.1 Structure of Ghana's Banking Industry

The Ghanaian banking system is rather diverse. Of the 17 banks operating in Ghana, there were 9 commercial banks, 5 merchant banks, and 3 development banks. The three largest commercial banks account for 55 percent of total assets of the banking sector, which is relatively moderate compared with other countries in the region. However, about 25 percent of total assets and 20 percent of deposits are held by a single state owned commercial bank. The development banks and merchant banks, which focus on medium- and long-term financing and corporate, banking, respectively, together share about 30 percent. The five small commercial banks operate on a much smaller scale. Foreign investors hold about 53 percent of the shares in eight commercial banks, which is below the sub-Saharan Africa average, and three banks are state-owned. The banking penetration ratio, at one bank branch per 54,000 inhabitants, is relatively high, but formal banking reaches only 5 percent of the population and the coverage varies widely. This reflects the fact that 35 percent of bank branches are in the greater Accra region even though this region represents less than 13 percent of the country's population. About half of all bank branches in the interior belong to the dominant state owned bank. As measured by the aggregated total-assets-to-GDP ratio, the banking sector grew rapidly between 1996 and 2000, reflecting partly financial deepening, as well as loose monetary conditions. After reaching 44 percent in 2000, the ratio dropped to 38 percent in 2001 and further to 31 percent at end-2003, reflecting tightened monetary conditions. The same trend characterized the share of commercial banks' foreign operations: the share of bank assets denominated in foreign currency reached 35 percent on 2000 and then declined to 30 percent in 2001, probably reflecting the increased stability of the cedi exchange rate (Buchs and Mathisen, 2005).

Following the tightening of monetary policy in 2001, domestic credit to the private sector has remained at around 10 percent of GDP, which is low even by African standards. This essentially reflects a typical crowding-out effect, as most of the banks' resources are absorbed by the public sector, either in the form of loans to state-owned enterprises or holdings of government securities. Increasing government financing requirements led to very high real Treasury bill yields, especially in periods of tight monetary policy, and by extension, to high lending rates. During 1998-2003, net loans averaged 34 percent of total assets (peaking at 43 percent in 2001), as banks preferred to invest their resources in liquid, low-risk assets, such as government securities, the latter constituting about 25 percent of total assets during the period(Buchs and Mathisen, 2005). In addition, state-owned enterprises have attracted sizable amounts of lending from commercial banks recently, thereby exacerbating the crowding-out effect. As a result, during the last few years, bank lending to the public sector has typically absorbed more than half of total available resources. The residual resources available for lending to the private sector (about 35 percent of total assets in 2003) have been mainly channeled to the manufacturing sector (25 percent of credit to the private sector), commerce and finance (9 percent) and services (8.5 percent). The agriculture, forestry, and fishing sectors have received less than one-tenth of total bank credit although agriculture accounts for 36 percent of GDP. With the exception of the national oil refinery plant—which is the sector's largest exposure7—no single borrower amounts to 10 percent of the financial sector's total equity (Buchs and Mathisen, 2005).

2.4.2 Financial Performance of the Banking Industry

Financial performance indicators portray a mixed picture. On the one hand, the average capital adequacy ratio (CAR) was about 13.4 percent in 2002 and 9.3 percent at-end 2003, well above the minimum 6 percent required by law. There was, however, significant dispersion among banks, and two small commercial banks even failed to meet the minimum capital standard requirement, prompting intervention by bank supervisors. The system is also characterized by high overhead costs. The five largest banks incur on average overhead costs of 7 percent to average assets, which is similar to the sector as a whole but substantially higher than the sub-Saharan African average of 5.7 percent. Note, however, that these costs are below those reported in Nigeria and Zambia. The high costs could partly reflect substantial investments in banking infrastructure, notably in information and communication technologies, as telecommunication in particular suffers from interconnectivity problems. It could also reflect some marketing practices, such as the refusal to network the automated teller machines, which appears to have led to unduly high investments in such systems. However, one key element in the total overhead costs is the staff expenditure component (about 3.7 percent to average assets), which constitutes roughly half of total overhead costs. For example, the dominant state owned bank has one of the highest staff costs (4.3 percent to average assets), while the other large commercial banks' average is 3 percent. This high ratio suggests both a low level of assets per employee and a relatively high average staff cost per employee. On the other hand, profitability indicators indicate that, despite high overhead costs and sizable provisioning, Ghanaian banks' pretax returns on assets and equity are among the highest in sub-Saharan Africa—a situation that reflects very wide interest margins (Buchs and Mathisen, 2005).

2.4.3 Possible Factors Explaining Bank Profitability and the Efficiency of Intermediation

At least three factors may have prevented further financial deepening in Ghana so far, and which may be relevant for the interpretation of both profitability and efficiency indicators of the banking system. The first factor is macroeconomic policies, as macroeconomic stability is essential to the development of the financial sector. This is relevant because Ghana's macroeconomic policies over the last decade have been characterized by periodic slippages in financial discipline, leading to volatile and generally high inflation, large exchange rate swings, and negative real interest rates for extended periods. The most recent example of macroeconomic imbalances includes the severe terms of trade shock of 1999-2000, which, combined with fiscal slippages, resulted in inflationary pressures, a15 percent exchange rate depreciation, and the buildup of a sizable domestic government debt. It is intuitive to assume that the high degree of uncertainty associated with Ghana's unstable macroeconomic environment has negatively affected both the size and the quality of financial intermediation (Buchs and Mathisen, 2005).

A second possible factor is the risky lending environment prevailing in Ghana, as reflected in the high level of past-due/nonperforming loans. This is largely due to the significant losses of some state-owned companies, but also reflects the lack of any central credit information system and the lack of cooperation among banks in sharing customer information.

A third factor that may account for low and inefficient financial intermediation in Ghana is the presence of an uncompetitive market structure. Interestingly, there is no one-to-one relationship between concentration and competition. On the one hand, monopolistic or oligopolistic behavior tends to result in higher intermediation costs and diseconomies of management than under a competitive structure; thus, noncompetitive behavior is consistent with the presence of wide interest rate margins and spreads, which tend to deter potential depositors, as well as potential borrowers, and result in low lending ratios. On the other hand, market size may offer the possibility of exploiting economies of scale (from overhead in administrative operations and information gathering), as well as economies of scope (in combining different product lines for instance). What really matters for the net effect on competition is the level of contestability in the market: the threat of potential competition-or lack thereof-can substantially affect competitiveness conditions, regardless of market concentration (Buchs and Mathisen, 2005).

Good management decision would be made in favour of factors that highly improve a firm's performance. Market structure in highly concentrated markets is believed to have a positive effect on corporate profit. However, high degrees of market share concentration are inextricably associated with high levels of profits at the detriment of efficiency and effectiveness of the financial system to due decreased competition (Bain, 1951; Gilbert, 1984; Smirlock , 1985; Evanoff and Fortier, 1988; Clark,1986; Molyneux and Forbes, 1995). Secondly, since commercial banks are the primary suppliers of funds to business firm, the availability of bank credit at affordable rates is of crucial importance for the level of investments of the firms, and consequently, for the health of the economy. In situation of increased concentration, the possibility of rising costs of credits is reflected to a reduction of the demand for bank loans and the level of business investments (Civelek and Al-Alami, 1991). The effect multiplies many folds in as much as bank management capitalizes on the market share concentration factor (Atemnkeng J. and Nzongang, 2006).

According to the Ghana Banking Survey, 2008 report issued by Pricewaterhouse Coopers in association with the Ghana Association of Bankers, Ghana's economy has been fairly stable over the survey period i.e. from 2003 to 2007. Of remarkable note is the steady growth of real GDP from 5.20% in 2003 to 6.30% in 2007 in spite of the significant external shocks of high – and still rising – world crude prices and the2006/2007 energy crisis that resulted in a protracted period of power outages to virtually every productive sector of the economy. The services sector, contributing 31% of GDP, led growth in 2007 by posting an increase of 8.2%. This growth was driven by strong performances recorded for the financial, real estate and business sub-sectors of the economy.

Ghana's largest sector – the agricultural sector contributing about 34% of GDP – recorded a slowdown in its pace of growth. It fell from 4.5% (2006) to 4.3% (2007), mainly because of poor weather conditions. First, there was a drought that led to small harvests in the country's critical food producing regions and insufficient seed for the late planting season. Next, there was severe flooding that destroyed whole farms and farm communities, livestock, food stores, and infrastructure. These happenings again emphasized the fragility of Ghana's agricultural sector and industry – insufficient irrigation and postharvest systems and infrastructure.

Growth in industry lagged behind the other two major sectors of the economy. High crude prices means operating costs shot up especially as the domestic petroleum market was deregulated. Also, the load management exercise resulted in significant production time losses, especially in the mining and manufacturing sub-sectors. However, with Ghana's oil find and interests in utilities and infrastructure, a more robust industrial growth is anticipated soon.

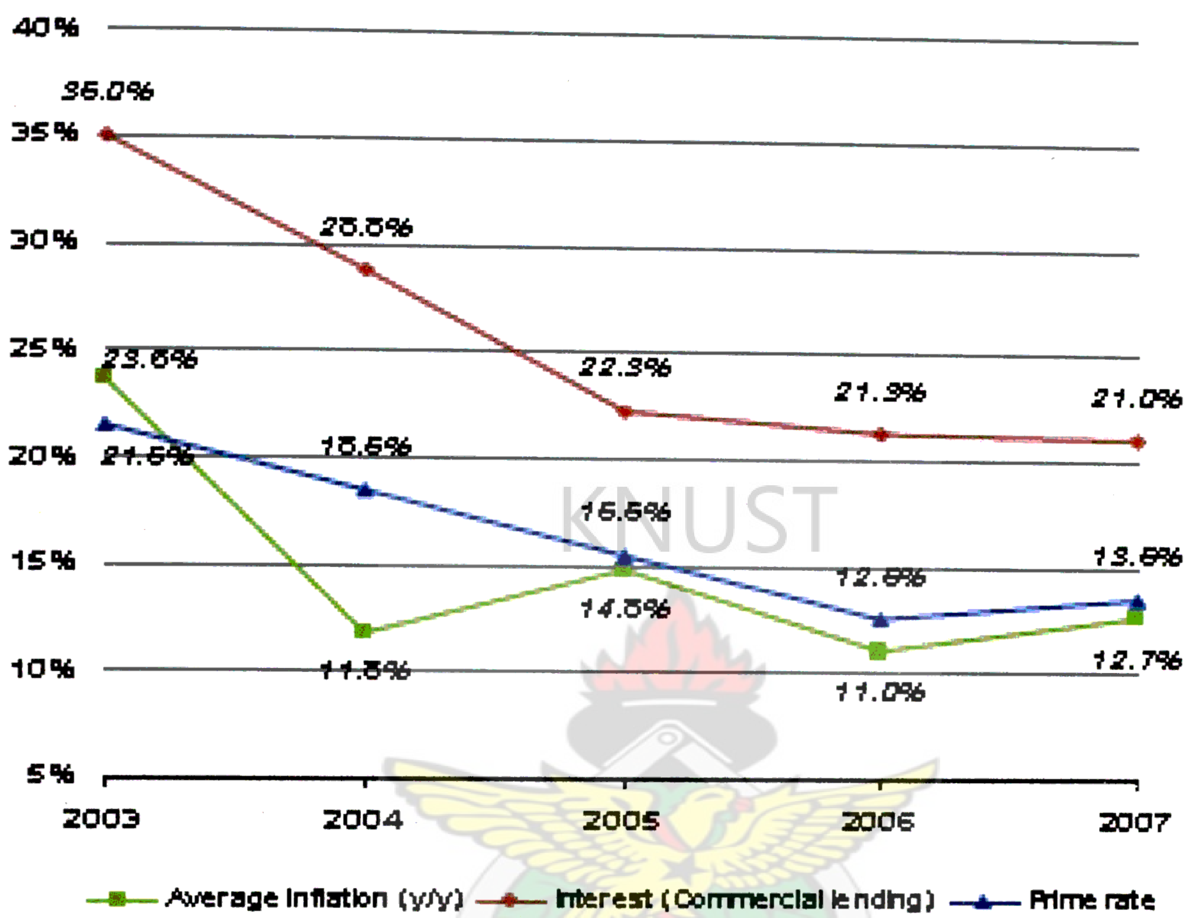
Inflation was kept under reasonable control over the survey period. However, it has not been tamed yet.

A good interplay between monetary and fiscal policies generated very impressive results in the early years of the survey period, as year-on-year inflation tumbled 12% in one year, from 2003 to 2004. Subsequently, though year-on-year inflation has remained low, it has avoided Government's single digit target. Various factors have been cited as reasons for the behavior of domestic inflation. These include unplanned government spend resulting from wage-related pressure by specialized labor in critical social sectors, and the need for emergency power plants during the 2006/2007 energy crisis. Inflation also rode on the back of approved increases in utility tariffs, planned to better reflect the costs of production. Lately, inflation has been buoyed up by high food and fuel prices on international markets, which have weakened the country's trade balance and depleted the foreign currency reserves.

Over the survey period, the Bank of Ghana's (BOG's) prime rate tracked inflation for two key reasons – to promote further drops in inflation, and signal banks to reduce their commercial lending rates so as to encourage credit consumption by the economy's productive sectors.

As shown in the graph below, commercial lending rates generally fell over the period, very rapidly initially as competition grew keener with the entry of banks from Nigeria. However, a 3% increase in annual average inflation (2004 – 2005) caused banks to subsequently decrease the pace of drop in their lending rates.

Nominal inflation and interest rates



PricewaterhouseCoopers
in association with
Ghana Association of Bankers

This slackening in banks' pace of driving their commercial lending rates down is in spite of BOG continuing its policy of lowering the prime rate in substantial amounts. A key explanation offered by banks is that the industry is still plagued by structural weaknesses that keeps credit risk aloft, such as the absence of credit reference bureau. However, in the face of increased competition and higher liquidity resulting from the abolition of the 15% secondary reserves in 2006, the industry still dropped its loan prices a notch to encourage debt uptake by the real sectors.

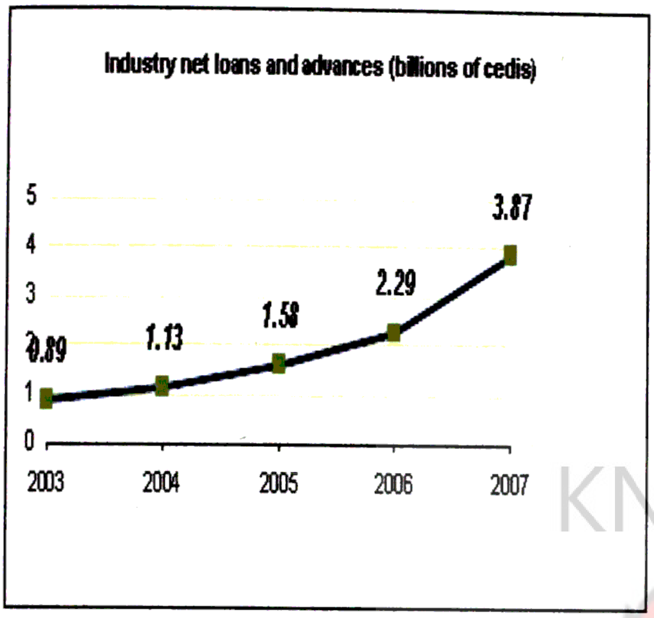
Recently, sensing an imminent heating up of the economy with the impact of world crude and food prices filtering through into domestic economies, BOG's Monetary Policy Committee (MPC) has increased the prime rate to 16% in a bid to mop up liquidity and nip any inflationary pressures in the bud. It would appear, however, that the fight with inflation has just started, as there does not seem an immediate let-up in the world crude and food price rises.

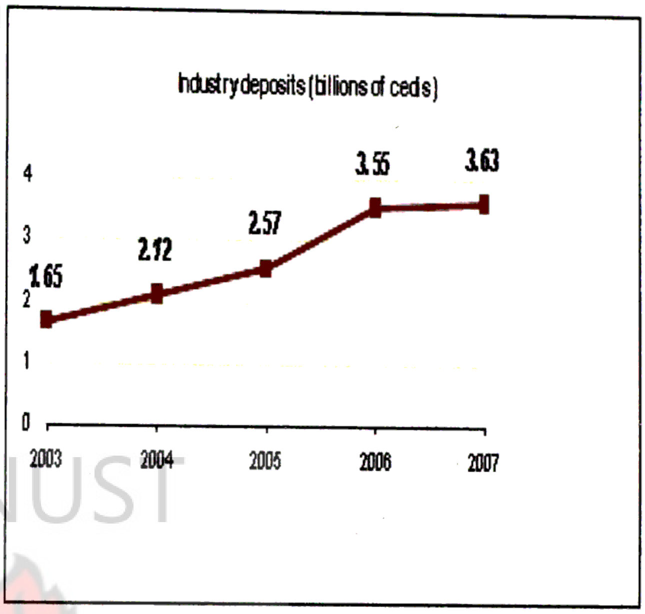
Between 2005 and 2007, seven banks entered Ghana's banking industry. Two of them that obtained their licences in 2007 – Bank of Baroda and Sahara Bank of Indian and Libyan nationality, respectively – did not start operations during the survey period.

A look at the profit and loss accounts of these new entrants shows that the majority of them were already posting profits by the end of 2007; an indication that Ghana's economy offers a good environment for banking business, despite the intensified competition in the industry.On-going investments by banks further underscore their high confidence in the good health of the economy and the industry, both now and in the future.

It is now apparent that banks are beginning to consider themselves ready to do business with Ghana's large informal sector, as many of them have established SME desks and tailored their credit appraisal processes to better identify, evaluate, and manage the risks considered to be inherent in SME lending. This decision could very well lead to a swelling of the banked population with the formal banking sector – a precursor to the much needed growth in savings and available loanable and investible funds, which would provide the platform for homegrown economic growth.

In response to the various developments at both regulatory and market levels, the industry has girded up for growth. The next few graphs tell a story of the happenings in the industry – the last five years indeed seem to have been exciting – for the economy as a whole, for banks, and for customers.





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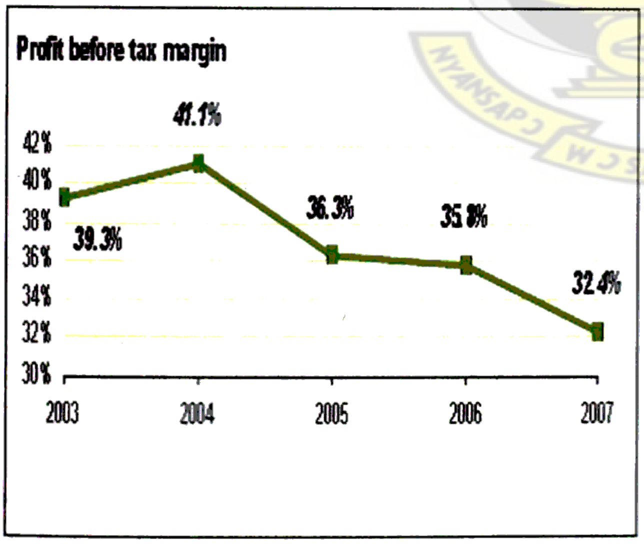
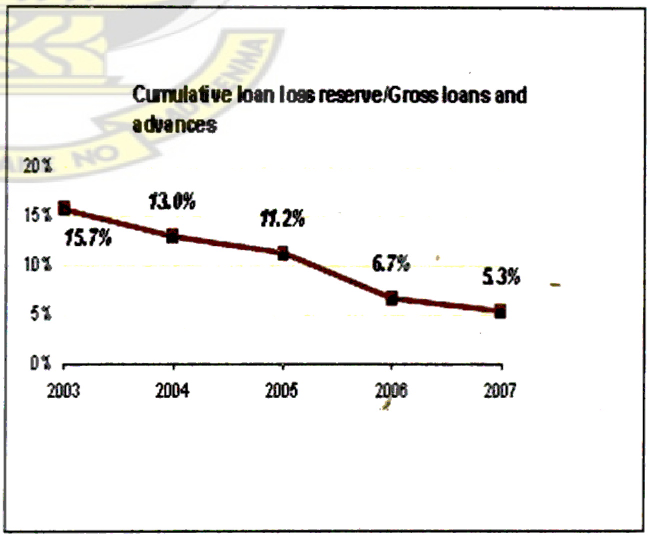
As the competition got keener, margins and returns shrivelled, but remain attractive. Also, banks paid greater attention to credit risk management leading to an improvement in asset quality.





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According to Asli Demirguc-Kunt and Levine (2000), concentration in the banking industry may have far-ranging and long-lasting implications for financial sector efficiency, bank stability, industrial competitiveness, and the policies, regulations, and institutions essential for long-run economic growth. Some argue that concentration will intensify market power and thereby stymie competition and efficiency. Others argue that economies of scale drive bank mergers and acquisitions, so that increased concentration goes hand-in-hand with efficiency improvements.

They also stated that, in terms of stability, greater concentration may augment the size, market power, and profits of banks, and thereby enhance diversification and create greater incentives for secure banks to avoid imprudent risk-taking. On the other hand, bigger, politically connected banks may become more leveraged and take on greater risk since they can rely on policymakers to help when adverse shocks hurt their solvency or profitability. Similarly, large, politically influential banks may shape the policies and regulations influencing bank activities. Moreover, powerful banks may influence tax systems, anti-trust legislation, the degree of corruption, and a broad set of institutions governing economic interactions in ways that help banks, but not necessarily in ways that help the overall economy.

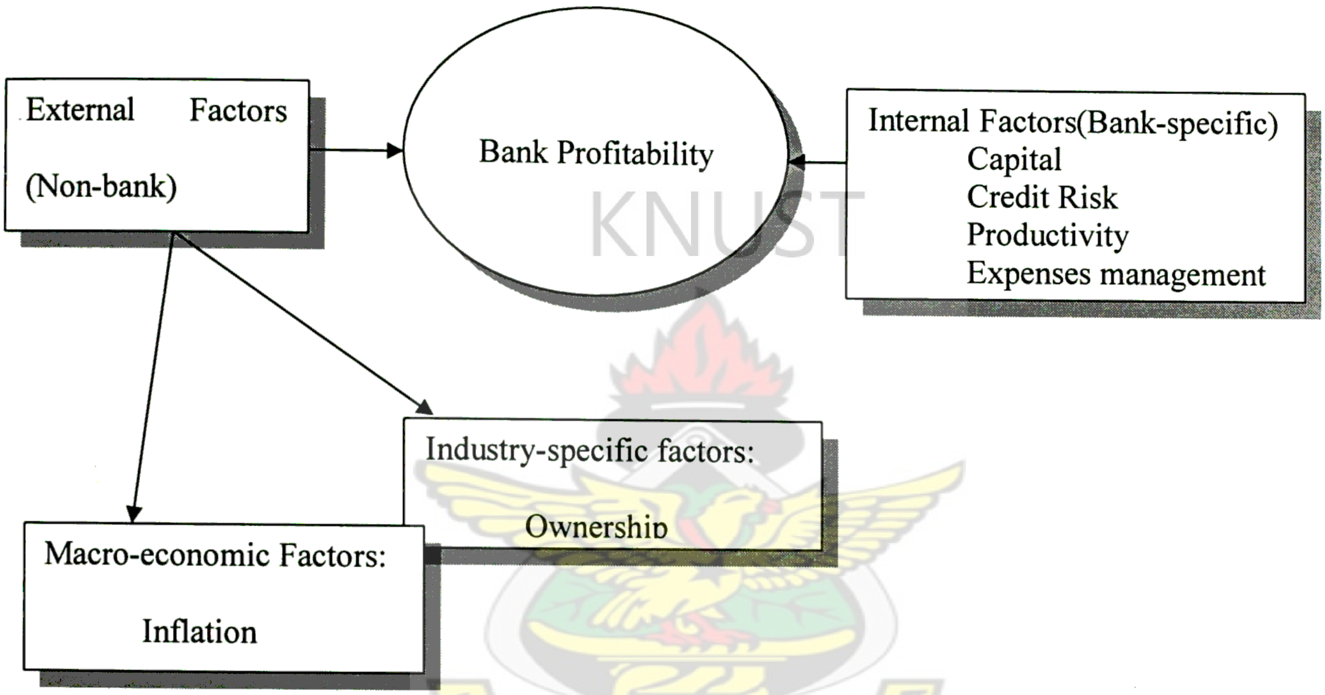
Finally, policymakers frequently use concentration as a proxy for competition. While excessive competition may create an unstable banking environment, insufficient competition – and contestability – in the banking sector may breed inefficiencies. For these reasons, policymakers are concerned about commercial bank concentration.

In terms of the political economy aspects of bank concentration, existing research on commercial bank concentration has yet to shed much direct evidence on the relationship between bank concentration and the enactment of financial sector policies, bank regulations, corruption, and other institutions. Thus, important work remains. We do, however, find that countries that permit their banks to engage in a wide range of financial activities also tend to have relatively high levels of bank concentration.

2.4.4 Conceptual Framework

This paper adopts the Structure-Conduct-Performance model used by the Bank of Greece in a paper that assessed the effect of bank-specific, industry-specific and macroeconomic determinants of bank profitability (Athanasoglou *et al.*, 2005).

The Structure-Conduct-Performance model is represented by the following schematic diagram:



Market Structure Conduct and Performance (SCP) framework was derived from the neo-classical analysis of markets. The SCP paradigm was the brain child of the Harvard school of thought and popularized during 1940-60 with its empirical work involving the identification of correlations between industry structure and performance. This SCP hypothesis has lead to the implementation of most anti-trust legislation. This was followed by the Chicago school of thought from 1960-80. They emphasized on the rational for firms becoming big, price theory and econometric estimation. During 1980-90 game theory took center stage with emphasis on strategic decision making and Nash equilibrium concept. After 1990, empirical industrial organization with the use of economic theory and econometrics lead to complex empirical modeling of technological changes, merger analysis, entry-exit and identification of market power (Shaik *et al.*, 2006). There are two competing hypotheses in the SCP paradigm: the traditional "structure performance hypothesis" and "efficient structure hypothesis":

The Structure-Conduct- Performance hypothesis states that the degree of market concentration is inversely related to the degree of competition. This is because market concentration encourages firms to collude. More specifically, the standard SCP paradigm asserts that there is a direct relationship between the degree of market concentration and the degree of competition among firms. This hypothesis will be supported if positive relationship between market concentration (measured by concentration ratio) and performance (measured by profits) exist, regardless of efficiency of the firm (measured by market share). Thus firms in more concentrated industries will earn higher profits than firms operating in less concentrated industries, irrespective of their efficiency (Shaik *et al*, 2006).

The efficiency structure hypothesis states that performance of the firm is positively related to its efficiency. This is because market concentration emerges from competition where firms with low cost structure increase profits by reducing prices and expanding market share. A positive relationship between firm profits and market structure is attributed to the gains made in market share by more efficient firms. In turn these gains lead to increased market concentration. That is, increased profits are assumed to accrue to more efficient firms because they are more efficient and not because of collusive activities as the traditional SCP paradigm would suggest (Molyneux and Forbes, 1995).

Traditionally, these hypotheses have been examined using the traditional measures of profit/profit margin as indicator of performance. In the efficiency/productivity literature there is increased emphasis on the use of efficiency as a measure to examine the economies of scale, economies of scope and both economies of scale and scope, accounting for risk, and policy implications.

Positive correlations between market concentration and profitability can be explained by the structure performance hypothesis or the efficient structure hypothesis (Shaik *et al*, 2006). Berger and Hannan (1989) used price information collected by the Federal Reserve System on banking institutions to examine price-concentration relationships instead of the profit-concentration relationship in order to eliminate the efficient structure hypothesis as an alternative explanation of the results. The results of this analysis support the structure performance hypothesis.

Wilson A. Alley (1993) tested the hypothesis that Japanese banking performance is a result of efficiency and should be identified by the efficiency structure hypothesis instead of the SCP hypothesis. In the model he estimated the degree of collusion in the Japanese banking industry and found that there is a significant degree of collusion. The finding of his analysis supports the structure conduct performance hypothesis as a better means of describing the Japanese banking industry.

CHAPTER THREE

3.0 Methodology

3.1 Introduction

Chapter three explains briefly what the researcher did in carrying out the research. The main aim of this chapter is to describe the intended sources of data, the sample characteristics, the sample size, the criteria and methods employed to select the sample. It explains and describes the research instrument used. The data collection tools and procedures undertaken to collect the data is also presented. It also contains how the data was analyzed and interpreted.

The methodological approach in the study was a case study with descriptive analysis because it attempts to identify and explain variables that exist in a given situation and to describe the relationship that exist between these variables in order to provide a picture of a particular phenomenon, but not point out cause-effect relationships.

The phenomenon to be studied; determinants of bank success or profitability is relatively had little attention in the field of academic research in Ghana and thereby the study aims at increasing the understanding of the effect of various factors in the economy on the profitability of banks.

3.2 Data Collection and Analysis

The research made use of data obtained from the past financial statements of the bank, the Ghana Banking Survey Reports as well as the relevant macroeconomic factors spanning the period 2003-2007 and the relevant information extracted through a detailed analysis of each financial year.

3.2.1 Determinants of Bank Profitability

Table 1 lists the variables used in this study. The profitability variable is represented by two alternative measures: the ratio of profits to assets, i.e. the return on assets (ROA) and the profits to equity ratio, i.e. the return on equity (ROE).

In principle, ROA reflects the ability of a bank's management to generate profits from the bank's assets, although it may be biased due to off-balance-sheet activities. ROE indicates the return to shareholders on their equity and equals ROA times the total assets-to-equity ratio. The latter is often referred to as the bank's equity multiplier, which measures financial leverage. Banks with lower leverage (higher equity) will generally report higher ROA, but lower ROE. Since an analysis of ROE disregards the greater risks associated with high leverage and financial leverage is often determined by regulation, ROA emerges as the key ratio for the evaluation of bank profitability (IMF, 2002). Both ROA and ROE are measured as running year averages.

3.2.2 Bank-specific Profitability Determinants

Capital: The ratio of equity to assets (EA) is used to proxy the capital variable, when adopting ROA as the profitability measure. Also, the assumptions underlying the model of one-period perfect capital markets with symmetric information are relaxed. Firstly, the relaxation of the perfect capital markets assumption allows an increase in capital to raise expected earnings. This positive impact can be due to the fact that capital refers to the amount of own funds available to support a bank's business and, therefore, bank capital acts as a safety net in the case of adverse developments. The expected positive relationship between capital and earnings could be further strengthened due to the entry of new banks into the market. Secondly, the relaxation of the one-period assumption produces an opposite causation, since it allows an increase in earnings to increase the capital ratio. Finally, the relaxation of the symmetric information assumption allows banks that expect to have better performance to credibly transmit this information through higher capital. In the light of the above, capital should be modeled as an endogenous (as opposed to a strictly exogenous) variable.

Credit Risk: To proxy this variable the loan-loss provisions to loans ratio (PL) is used. Theory suggests that increased exposure to credit risk is normally associated with decreased firm profitability and, hence, a negative relationship between ROA (ROE) and PL is expected. Banks would, therefore, improve profitability by improving screening and monitoring of credit risk and such policies involve the forecasting of future levels of risk. Additionally, central banks set some specific standards for the level of loan-loss provisions to be adopted by the country's banking system. In view of these standards, bank management adjusts provisions held for loan losses, the level of which is decided at the beginning of each period. Thus, credit risk should be modeled as a predetermined variable.

Productivity: In recent years banks have faced severe competition due to the lowering of barriers to entry and the globalization of the industry, which has forced them to reorganize. They have been targeting high levels of productivity growth both by keeping the labor force steady and by increasing overall output.

To examine whether improvements in productivity growth have benefited bank profits, the rate of change in labor productivity (measured by real gross total revenue over the number of employees) is included in the model.

Expenses management: The total cost of a bank (net of interest payments) can be separated into operating cost and other expenses (including taxes, depreciation etc.). From the above, only operating expenses can be viewed as an outcome of bank management. The ratio of these expenses to total assets is expected to be negatively related to profitability, since improved management of these expenses will increase efficiency and therefore raise profits.

3.2.3 Industry-Specific Profitability Determinants

Ownership: A relationship between bank profitability and ownership may exist due to spillover effects from the superior performance of privately-owned banks compared with publicly-owned banks. This variable is replaced by a dummy variable as ownership cannot be quantified.

Concentration: Concentration is measured using the Herfindahl-Hirschman (H-H) index. In the recent literature on the SCP hypothesis, alternative indicators of the degree of competition in banking are provided by the estimation of the Lerner and the Rosse-Panzar indices, which are usually referred to as non-structural measures of competition. The argument is that the structural measures (i.e. the H-H index and concentration ratios) were found to have a weak relationship with profitability, when market shares were also included in the regressions. The results generally show that the non-structural measures of competition are not correlated with concentration, i.e. competition could be present in markets even with a relatively high degree of concentration. However, the use of non-structural measures in the profitability function has some major limitations. For example, the Rosse-Panzar test can give misleading results if the banks in the sample have not completely adjusted to market conditions, and this leads to a bias toward the spurious appearance of market power. Similarly, in order to use the Lerner index, one has to effectively proxy bank output.

3.2.4 Macroeconomic Profitability Determinants

Inflation Expectations: As discussed in the literature review, the relationship between expected inflation (or long-term interest rate, which incorporates inflation expectations) and profitability is ambiguous. Current inflation is used as a proxy for expected interest rate, while the long-term interest rate.

CHAPTER FOUR

4.0 RESULTS, ANALYSIS AND DISCUSSION

4.1 Introduction

This chapter examines the findings or results of the study and presents it in a systematic way with tables and figures. Beyond stating the facts, the chapter also explains, discusses, draws inferences, interprets the findings and clearly indicates understanding of the results.

Table 1

DEPENDENT VARIABLE		INDEPENDENT VARIABLES (DETERMINANTS OF PROFITABILITY)						
Year	Profitability	Inflation	HH Index	Ownership	Capital	Credit	Productivity	Expense mgt
2007	0.03395	12.7	0.092731	1	0.12418	0.037	871.12	0.05785
2006	0.042286	11	0.09645314	1	0.13553	0.038	645.171	0.05506
2005	0.0477105	14.8	0.10875226	1	0.18487	0.061	708.513	0.06686
2004	0.050199	11.8	0.11924014	1	0.1927	0.047	539.068	0.05834
2003	0.05613	23.6	0.12547169	1	0.12134	0.048	490.84	0.06179

Table 1 above represents the independent and dependent variables calculated from the financial statement of the bank over the period of study.

4.2 Profitability of the Bank

The profitability of the bank was measured by the return on assets of the bank calculated using the formula:

$$\text{Return on Assets } (i) = \frac{\text{Profit Before Interest and Tax (i)}}{\text{Total Assets(i)}}$$

Where *i* refers to year 2003, 2004, 2005, 2006 and 2007.

Calculation of Variables

Profit Before Interest and Tax for 2007 = 79,120 million cedis

Total Assets = 233,060 million cedis

$$\text{Profitability}_{(2007)} = \frac{79{,}120}{233{,}060} = 3.395\%$$

Profit Before Interest and Tax for 2006 = 66,417 million cedis

Total Assets = 157, 0675 million cedis

$$\text{Profitability}_{(2006)} = \frac{66{,}417}{157{,}0675} = 4.229\%$$

$$\text{Profitability}_{(2005)} = \frac{45{,}678}{969{,}690} = 4.7105\%$$

$$\text{Profitability}_{(2004)} = \frac{41{,}435}{825{,}423} = 5.02\%$$

$$\text{Profitability}_{(2003)} = \frac{32{,}870}{585{,}636} = 5.613\%$$

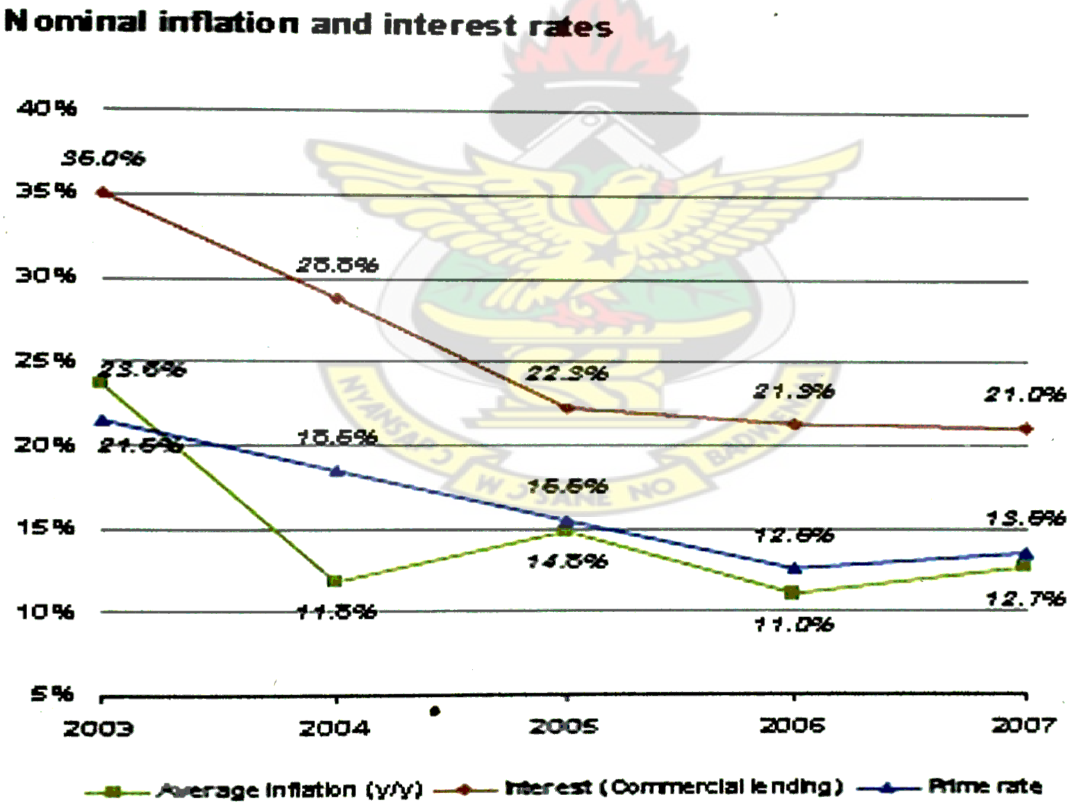
The Return On Assets calculated for the various years were the independent variables in the regression.

4.3 Inflation

Inflation was kept under reasonable control over the survey period. A good interplay between monetary and fiscal policies generated very impressive results in the early years of the survey period, as year-on-year inflation tumbled 12% in one year, from 2003 to 2004.

Over the survey period, the Bank of Ghana's (BOG's) prime rate tracked inflation for two key reasons – to promote further drops in inflation, and signal banks to reduce their commercial lending rates so as to encourage credit consumption by the economy's productive sectors. As shown in the graph below, commercial lending rates generally fell over the period:

Graph 1



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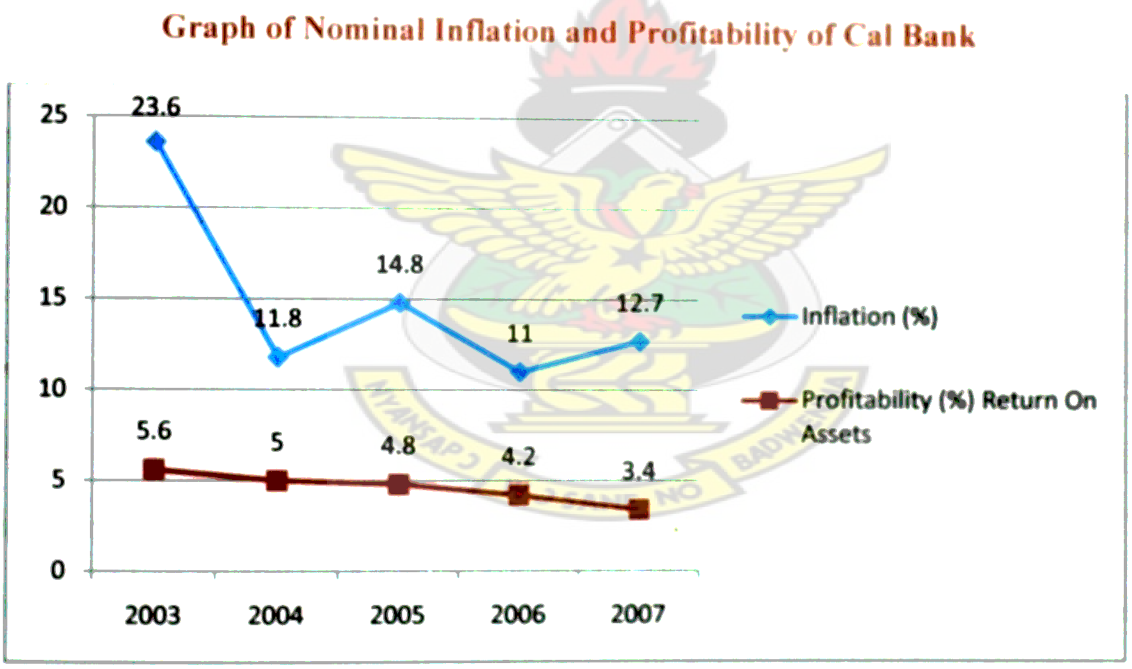
4.3.1 Inflation and Profitability of Cal Bank

Interest income is the main source of income for banks and such banks monitor the rate of inflation in determining the commercial lending rate. Banks monitor the rate of inflation and adjust for lending rates in order not to make losses which may arise from the reduction in the real value of interest income generated from its lending activities. Therefore interest rates are usually stated above the prevailing inflation rate. There is therefore a direct relationship between the inflation and interest rate; interest rate falls with falling inflation rate. This will result in a reduction in the profitability of the bank. This is depicted the following graph of the prevailing inflation and the profitability of the bank over the period of the study.



Though in 2005, inflation increased, the profitability of the bank did not increase but continued in its downward trend. This can be explained that banks determine their interest rates based on projections of expected inflation. The period for which inflation rose i.e. 1 year was not sufficient to reflect in increases in interest rate and thus interest income which also affects its profitability. This phenomenon which was observed with the bank was also consistent with that of the industry in general as evident in **Graph 1**(Nominal Inflation and Interest Rate). The sudden surge in inflation in 2005 did not push up interest rate for the industry in general. Interest rate continued the downward trend as well as profitability.

4.4 Competition in the Banking Industry and Profitability of Cal Bank

The The Herfindahl index, also known as Herfindahl-Hirschman Index or HHI, is a measure of the size of firms in relationship to the industry and an indicator of the amount of competition among them. Named after economists Orris C. Herfindahl and Albert O. Hirschman, it is an economic concept but widely applied in competition law and antitrust.

It is defined as the sum of the squares of the market shares of each individual firm: i.e. the average market share, weighted by market share. As such, it can range from 0 to 10,000 moving from a very large amount of very small firms to a single monopolistic producer. Decreases in the Herfindahl index generally indicate a loss of market power and an increase in competition, whereas increases imply the opposite. The major benefit of the Herfindahl index in relationship to such measures as the concentration ratio is that it gives more weight to larger firms. This behavior rests in the fact that the market shares are squared prior to being summed; giving additional weight to firms with larger size. The index is calculated using the following formula:

$$H = \sum_{i=1}^{n} s_i^2$$

where s_i is the market share of firm i in the market, and n is the number of firms. A small index indicates a competitive industry with no dominant players i.e. the smaller the index, the greater the competition in the market (www.wikipedia.org).

The table provided in the following page depicts the market shares of the individual banks within the Ghanaian industry. The market shares of industry deposits was chosen to reflect the ability of the banks to mobilize funds from depositors (generate liabilities) and convert these liabilities into interest-generating assets. The columns labeled with the years indicate the market shares of the individual banks and the adjacent column indicates the square of the market shares. The HH index is the sum of the squares of the market shares of the banks.

Generally, from 2003 to 2007, the index fell continuously from 2003 to 2007 indicating increased competition in the market. This is attributed to the following reasons: On the monetary sector, the Bank of Ghana (BOG) sought to create a monetary environment that is favourable for business expansion: the BOG Prime Rate reduced from 24.5% (2002) to 12.5% (2006); and abolished the 15% secondary reserve requirements in August 2006.

The abolition of the secondary reserve requirement freed up significant liquidity for lending to businesses as foreign currency trading was no longer attractive for banks.

These developments in the macroeconomic context and central bank policies had a positive impact on the banking industry. These served as an incentive for more competition in the activities of the banks.

It also induced foreign banks especially Nigerian banks to move into the Ghanaian banking industry. Since 2002, five banks have entered the Ghanaian market. The first four are of Nigerian origin, and noted for their very aggressive and predatory approaches to business:

Zenith Bank Limited, United Bank of Africa (UBA), which acquired Standard Trust Bank Limited, Guaranty Bank Limited, Intercontinental Bank Limited, and Fidelity Bank Limited.

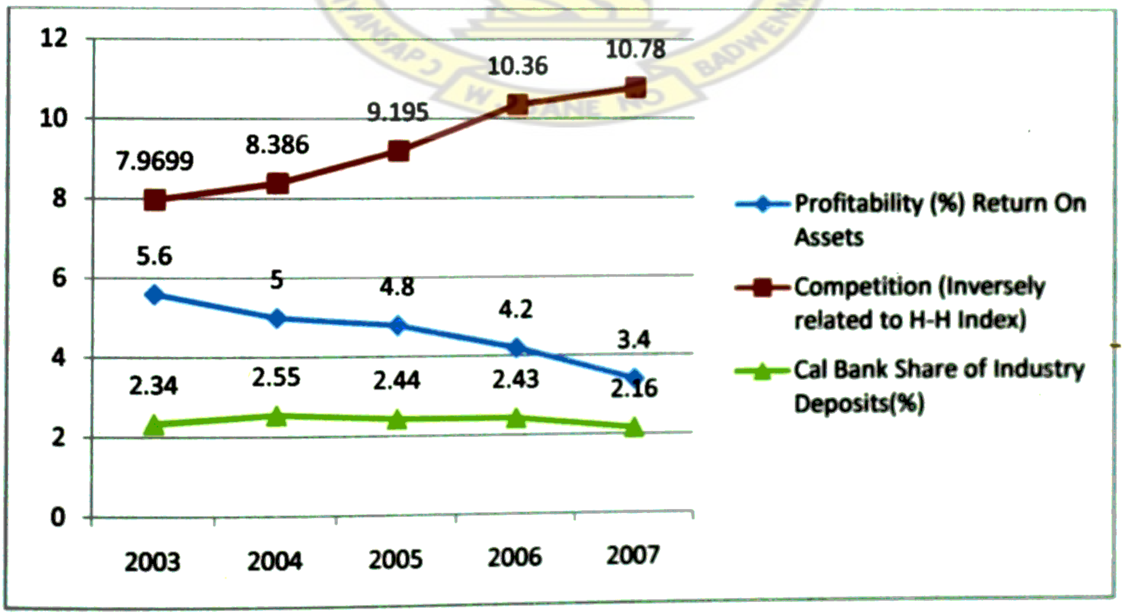
YEAR	2007		2006		2005		2004		2003	
BBG	0.1819	0.0331	0.151	0.0228	0.1625	0.0264	0.1653	0.0273	0.177	0.0313
GCB	0.159	0.0253	0.175	0.0306	0.1843	0.0340	0.2013	0.0405	0.1935	0.0374
SCB	0.1025	0.0105	0.1285	0.0166	0.1446	0.0209	0.1622	0.0263	0.1766	0.0312
EBG	0.0829	0.0069	0.0874	0.0076	0.0929	0.0086	0.085	0.0072	0.0765	0.0059
MBG	0.0569	0.0032	0.0614	0.0038	0.0549	0.0030	0.0508	0.0026	0.0485	0.0024
ADB	0.048	0.0023	0.0646	0.0042	0.0706	0.0050	0.0755	0.0057	0.0923	0.0085
SG-SSB	0.0495	0.0025	0.0652	0.0043	0.0695	0.0048	0.0744	0.0055	0.0768	0.0059
Stanbic	0.0472	0.0022	0.0284	0.0008	0.025	0.0006	0.0302	0.0009	0.0184	0.0003
NIB	0.0433	0.0019	0.0468	0.0022	0.0488	0.0024	0.021	0.0004	0.021	0.0004
PBL	0.0315	0.0009	0.0287	0.0008	0.0281	0.0008	0.0237	0.0006	0.0186	0.0004
CAL	0.0216	0.0004	0.0243	0.0006	0.0244	0.0006	0.0255	0.0007	0.0234	0.0006
TTB	0.0269	0.0007	0.0258	0.0007	0.0287	0.0008	0.0307	0.0009	0.0275	0.0008
FAMBL	0.0178	0.0003	0.0164	0.0003	0.0172	0.0003	0.0108	0.0001	0.0131	0.0002
HFC	0.0148	0.0002	0.0153	0.0002	0.0109	0.0001	0.0081	0.0000	0.0066	0.0000
ZBL	0.0254	0.0007	0.0154	0.0002	0.001	0.0000		0		0
FIDELITY	0.0234	0.0006	0.0187	0.0004		0		0		0
ABL	0.0223	0.0005	0.0153	0.0002	0.011	0.0001	0.0119	0.0001	0.0085	0.00007
Intercon.	0.0146	0.0002	0.0033	0.00001		0		0		0
ICB	0.011	0.0001	0.0138	0.00019	0.0139	0.0002	0.0121	0.0002	0.0101	0.0001
UGL	0.01	0.0001	0.0069	0.00005	0.0061	0.0000	0.0053	0.00003	0.0045	0.0000
GTB	0.0059	0.0000	0.0029	0.00001		0		0		0
BPI	0.0036	0.0000	0.0049	0.00002	0.0054	0.00003	0.0062	0.00004	0.0072	0.0001
HH Index		0.0927		0.0965		0.1088		0.1192		0.1255

In August 2006, BOG abolished the 15% of deposits secondary reserve requirement. In 2006, BOG increased the minimum stated capital requirements from ¢200million to ¢70 billion. This compares to the Central Bank of Nigeria's requirement of an equivalent of over ¢195 billion. The National Reconstruction Levy, which ranged between 2.5% and 5% of profit before tax was abolished at the end of 2006. More banks "re-engineered" part of their business to give some focus to SMEs, hitherto shunned for their high risk. At the beginning of 2007, the Institute of Chartered Accountants, Ghana (ICAG) issued a directive instructing that businesses (including banks) ensure that their statutory financial reporting for the financial year ending 2007 are IFRS compliant.

4.4.1 Relationship between Profitability and Competition

These factors in the industry contributed significantly to increased competition which gradually eroded the market share of the bank and thus its profitability measured by Return on Assets. The graph illustrates the trend of competition and profitability.

Graph of Cal Bank Profitability and Competition



As competition increased over the period, the profitability of the bank continued to decrease. Its share of the industry deposits decreased gradually over the study as a result of competition for industry deposits except in 2004. In 2004, the bank had less expensive capital raised through its Initial Public Offer the previous year thus enabling it to improve its deposit mobilisation. However, this market share could not be sustained due to new market entrants. As shown in the graph 1, commercial lending rates generally fell over the period, very rapidly initially as competition grew keener with the entry of banks from Nigeria. However, a 3% increase in annual average inflation (2004 – 2005) caused banks to subsequently decrease the pace of drop in their lending rates.

4.5 Capital of Cal Bank and its Profitability

Bank capital in Ghana or shareholders' funds comprises stated capital, income reserves, statutory reserves, and capital reserves. The capital variable of the bank was calculated using the formula:

$$\text{Capital } (i) = \frac{Equity(i)}{Total\ Assets(i)}$$

Where i refers to the year 2003, 2004, 2005, 2006 and 2007.

This equation was chosen to determine the component of the bank's total assets is equity. Its significance lies in depicting the how much capital is available for the bank to support its activities. A higher capital indicates that the bank has a relatively high amount of its own resources. Thus higher capital is expected to result in high profitability.

Calculation of Variables

$$\text{Capital}_{(2003)} = \frac{71{,}060}{585{,}636} = 12.13\%$$

$$\text{Capital}_{(2004)} = \frac{159{,}062}{825{,}423} = 19.27\%$$

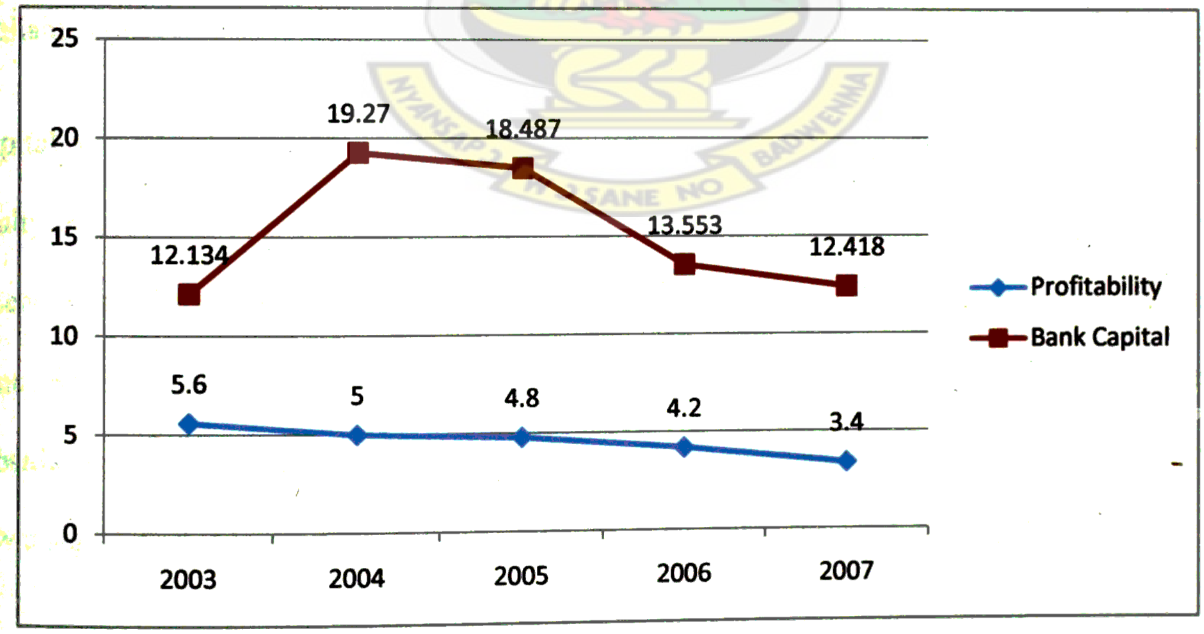
$$\text{Capital}_{(2005)} = \frac{179{,}271}{969{,}690} = 18.487\%$$

$$\text{Capital}_{(2006)} = \frac{212{,}877}{1{,}570{,}675} = 13.533\%$$

$$\text{Capital}_{(2007)} = \frac{289{,}410}{233{,}0640} = 12.418\%$$

The capital of the bank rose by 7.14% from 2003 to 2004 and from then onwards experienced a downward trend. This is represented in the following graph:

Graph of Cal Bank Capital and Profitability



In 2004, the capital of the bank appreciated sharply. The increase was a result of total shareholders' fund increasing by 123.84% while total assets increased by 40.95%. The sharp increase in shareholders' fund is primarily accounted for by a 973.09% increase in stated capital of the bank in 2004 over that of 2003. Capital surplus also increased by 721.4% in 2004. The increase in stated capital of the bank was a result of an issue of 29,857,000 ordinary shares issued for cash as IPO with a value of 42,588 million cedis and 28,000 million cedis transfer from income surplus. However, the increased capital realized from the IPO did not result in increased profitability because, investments were more of long term and thus would not yield increase profits within the short period captured.

From 2004 onwards to the capital of the bank continued to see a downward trend. This downward trend did not occur as a result in reduction in shareholders' funds. Rather, it was due to higher increases in the bank's total assets relative to its equity. Profitability of the bank also continued with the downward trend as the relative proportion of total assets in bank capital available continued to reduce.

Capital of the bank in 2005 reduced by 0.78% from 19.27% in 2004 to 18.49% in 2005. Though equity increased by 12.7% in 2005 over 2004, total assets increased by 17.48%. The increase in assets being accounted for primarily by a 76.44% increase in cash and balances with the central bank, 648% increase in investments in other securities and a 90.9% increase in investment in subsidiaries. The statutory reserve fund was the only component of the shareholder's fund which saw a significant increment (114.39%) while income surplus for 2004 dropped by 18.76%.

In 2006, the equity to assets ratio dropped by 4.9%. Equity increased by 18.75% while total assets increased by 151.696%. The sharp increase in assets resulted from a 182.598% increase in loans and advances in 2006 over that of 2005, a 50% increase in investments in government securities and a 238.1% increase in other assets.

4.6 Credit Risk and Profitability

The credit risk of the bank measures the exposure of the bank to losses arising from defaults in loan payment. The variable was calculated using the loan-loss provision of the bank which signals the estimated or projected exposure of the bank, and the total term loans advanced by the bank to its customers.

Credit Risk variable is calculated using the formula:

$$\text{Credit Risk } (i) = \frac{\text{Loan-loss provisions (i)}}{\text{Total loans(i)}}$$

Where *i* refers to the years 2003, 2004, 2005, 2006 and 2007.

Calculation of Variables

Loan loss provisions $_{(2003)}$ = 4.8%

Total term loans $_{(2003)}$ = 67,081 million cedis

Credit Risk $_{(2003)}$ = 4.8%

Loan-loss provision $_{(2004)}$ = 4.7%

Total term loans $_{(2004)}$ = 109,585 million cedis

Credit Risk $_{(2004)}$ = 4.7%

Loan-loss provision $_{(2005)}$ = 6.1%

Total term loans $_{(2005)}$ = 143,344 million cedis

Credit Risk $_{(2005)}$ = 6.1%

Loan-loss provision $_{(2006)}$ = 3.8%

Total term loans $_{(2006)}$ = 544,320 million cedis

Credit Risk $_{(2006)}$ = 3.8%

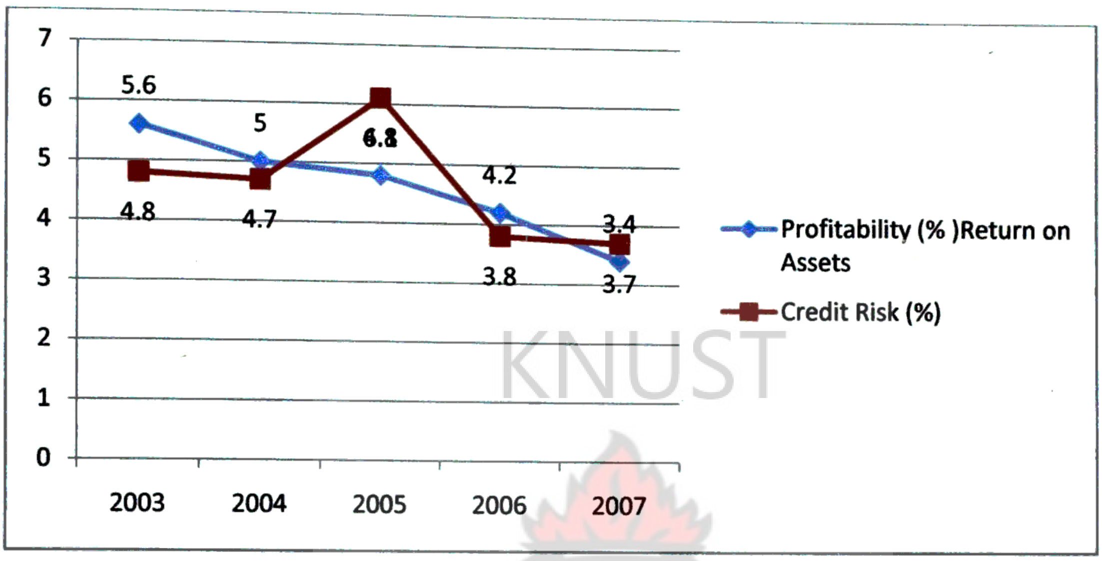
Loan-loss provision $_{(2007)}$ = 3.7%

Total Term loans $_{(2007)}$ = 728,910 million cedis

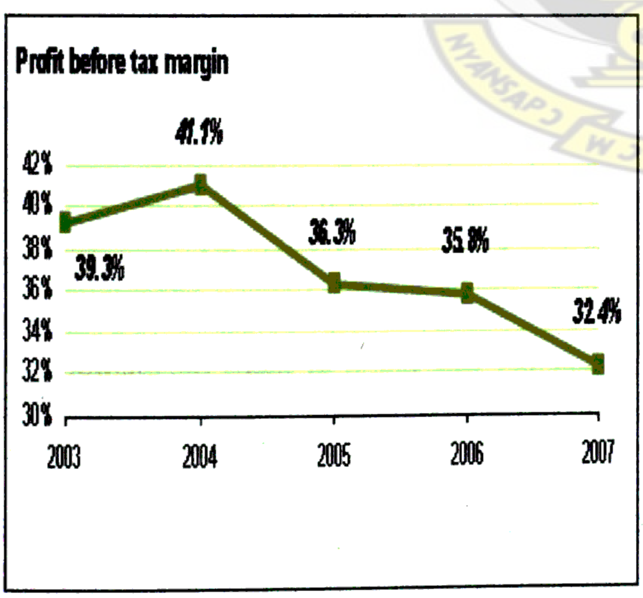
Credit Risk $_{(2007)}$ = 3.7%

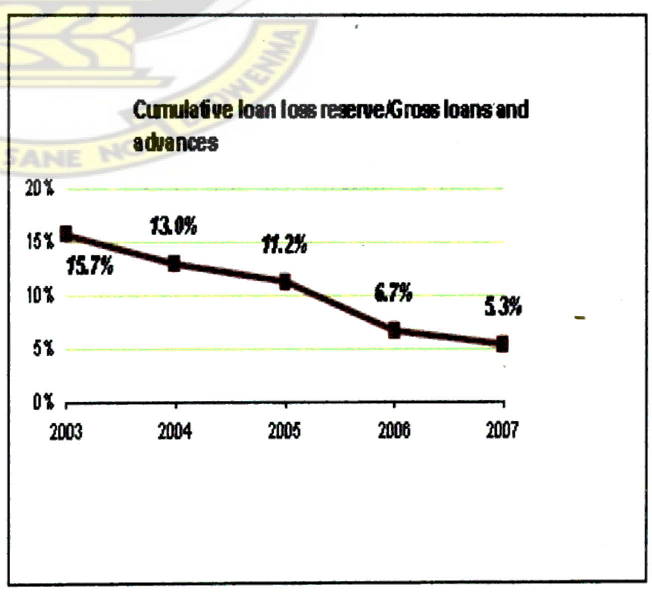
The graph below illustrates the trend in the bank's loans advanced to its clients, the credit risk and profitability of the bank.

Graph of Credit Risk, and Profitability of Cal Bank



The trend observed in the profitability of the bank and its credit risk, measured by its loan loss provisions is similar to the general trend within the industry. This is illustrated by the following graphs:





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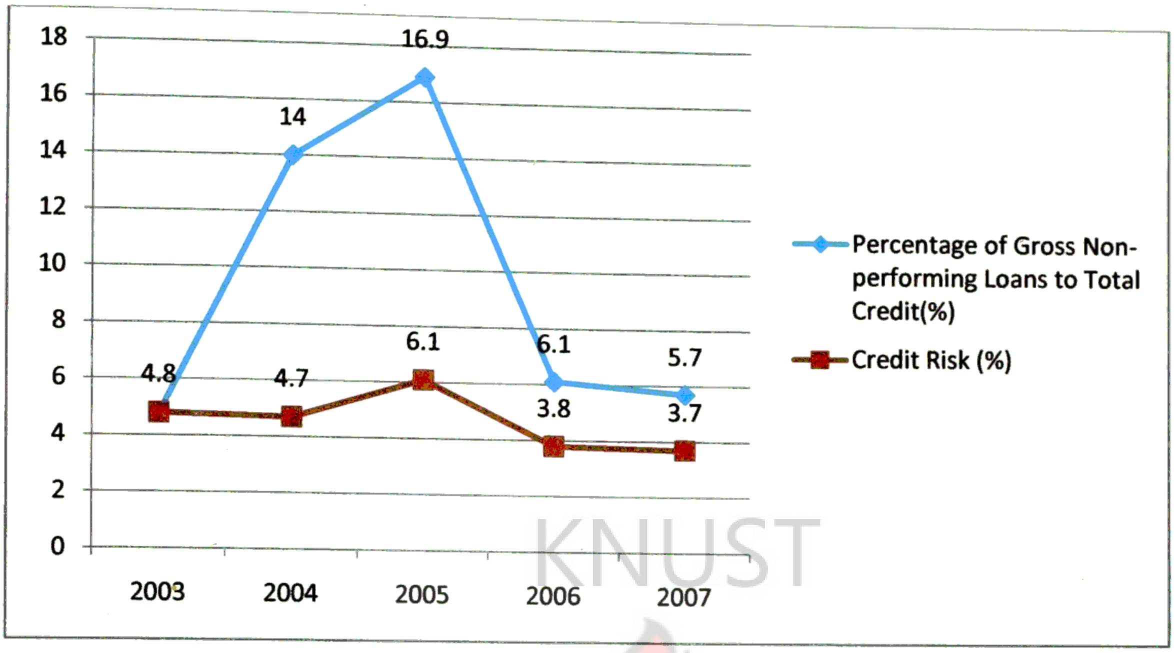
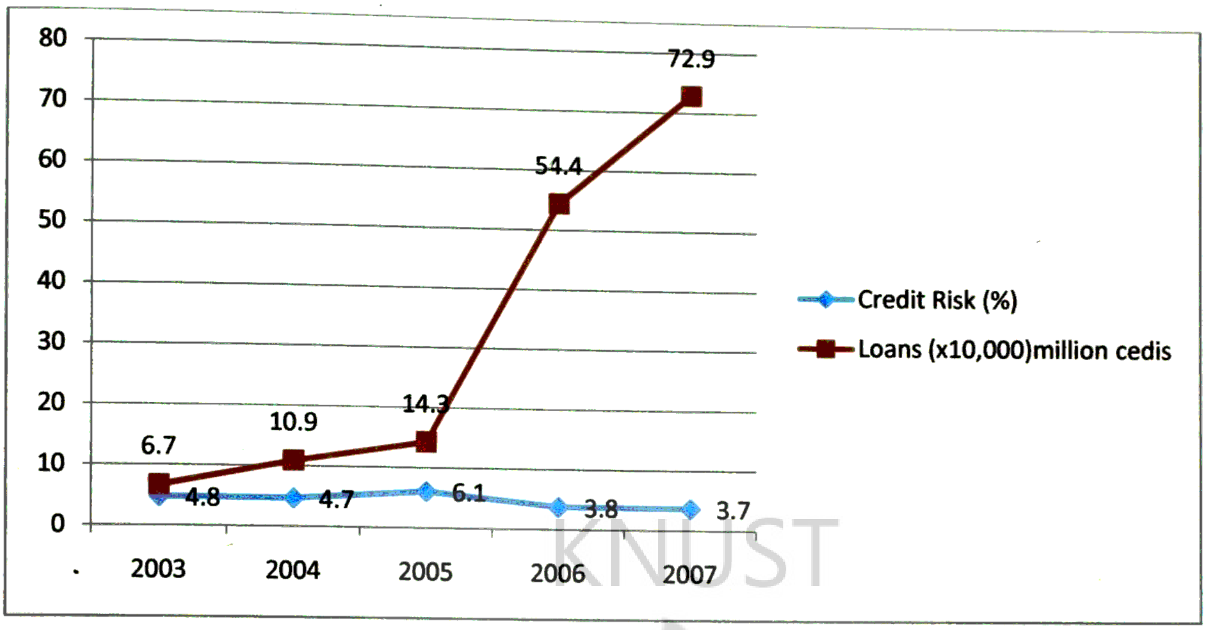
Graph of Credit Risk and Percentage of Gross Non-performing Loans to Total Portfolio



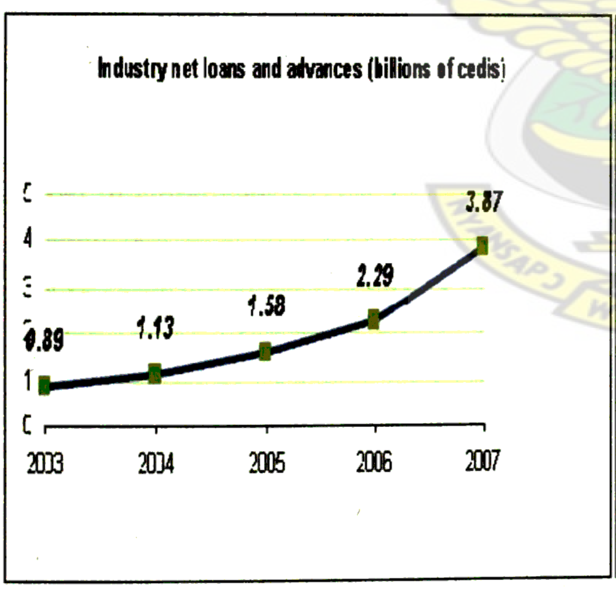
The credit risk of the bank dropped from its 4.8% in 2003 to 4.7% in 2004 due to a reduction of the bank's gross non-performing loans to total credit. However, in 2005, the credit risk of the bank spiked upwards resulting from a 2.9% increase in the percentage of gross non-performing loans to total credit portfolio of the bank over that of the previous year. From then onwards, the credit risk of the bank continued in a downward trend as a result of progressive decreases in the percentage of gross nonperforming loans relative to the total credit portfolio. The percentage of gross nonperforming loans continued in the downward trend due to measures put in place by management of the bank to recover advances written off by the bank.

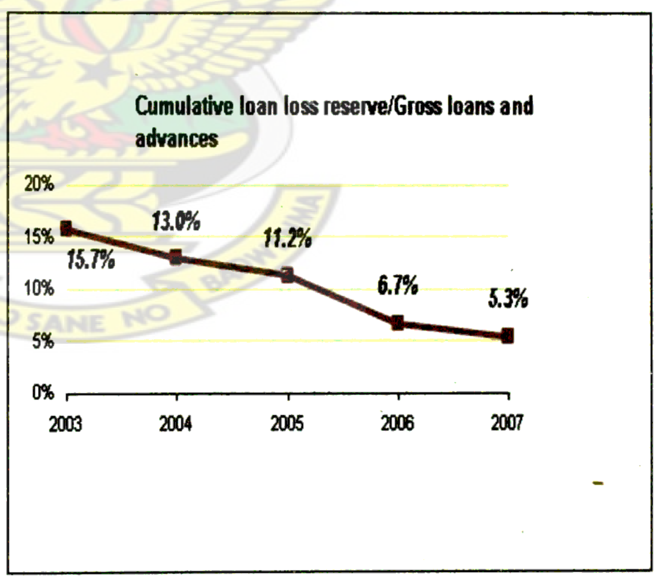
This downward trend in credit risk however did not reflect in increases in profitability of the bank. This could be due to dwindling interest margins in the banking industry as depicted in Graph 1, resulting from competition and central bank policies though the loan portfolio of the bank increased significantly as the credit risk of the bank dropped.

Graph of Credit Risk and Loans advanced by Cal Bank



The trend observed in the bank's loans and credit risk is similar to the trend in the industry over the study period. This is illustrated below.





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4.7 Productivity of Employees of the Bank and Its Profitability

The productivity of personnel variable seeks to capture the average contribution of the staff to the profitability of the bank. This variable is calculated by dividing the total gross revenue of the bank i.e. it interest income by the total number of employees of the bank for that financial year.

The formula is expressed as:

$$\text{Productivity } (i) = \frac{\text{Interest Income (i)}}{\text{Total number of employees (i)}}$$

Where *i* refers to year 2003, 2004, 2005, 2006 and 2007.

Interest Income $_{(2003)}$ = 76,571 million cedis

Number of Employee $_{(2003)}$ = 156

Average employee productivity $_{(2003)} = \frac{76,571}{156}$ = 490.84 million cedis

Interest Income $_{(2004)}$ = 95,415 million cedis

Number of employees $_{(2004)}$ = 177

Average employee productivity $_{(2004)} = \frac{95415}{177}$ = 539.068 million cedis

Interest Income $_{(2005)}$ = 132,492 million cedis

Number of employees $_{(2005)}$ = 187

Average employee productivity $_{(2005)} = \frac{132492}{187}$ = 708.53 million cedis

Interest Income $_{(2006)}$ = 162,583 million cedis

Number of employees $_{(2006)}$ = 252

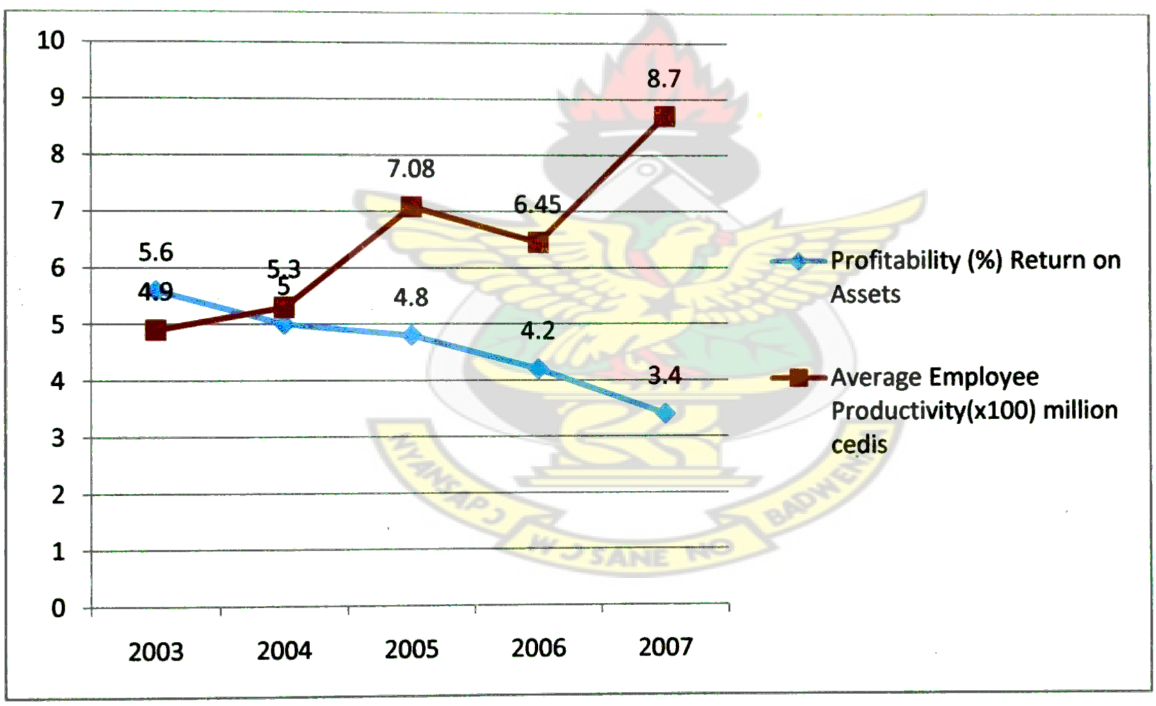
$$\text{Average employee productivity}_{(2006)} = \frac{162583}{252} = 645.17 \text{ million cedis}$$

Interest Income $_{(2007)}$ =240,430 million cedis

Number of employees $_{(2007)}$ = 276

$$\text{Average employee productivity}_{(2007)} = \frac{240430}{276} = 871.12 \text{ million cedis}$$

Graph of Employee Productivity and Profitability of Cal Bank



The average employee productivity of the bank increased over the period of the study except in 2006 when it dipped. This was because the proportion of support staff employed who did not contribute directly to the business of the bank and so did not contribute directly to the interest income of the bank.

Profitability of the bank as well did not have a direct relationship with the productivity of its employees though employee productivity increased significantly. Therefore other nonemployee-related factors seem to be the dominant factor(s) determining the profitability of the bank.

4.8 Expense Management and Profitability of the Bank

The expense management variable was included to capture the operating efficiency of the bank's management. It reflects the proportion of the bank's total assets spent in generating profits.

It is calculated using the formula:

$$\text{Expense Management}_{(i)} = \frac{\text{Total Operating Expenses(i)}}{\text{Total Assets(i)}}$$

Where *i* refers to year 2003, 2004, 2005, 2006, 2007

The smaller the expense management of the bank, the more efficient it is since it means, the management of the bank utilizes a smaller proportion of the bank's assets in its operations.

Calculation of Variables

Total Operating Expenses $_{(2003)}$ = 36,188 million cedis

Total Assets $_{(2003)}$ = 585,636 million cedis

$$\text{Expense Management}_{(2003)} = \frac{36188}{585636} = 6.18\%$$

Total Operating Expenses $_{(2004)}$ = 48151 million cedis

Total Assets $_{(2004)}$ = 825423 million cedis

Expense Management $_{(2004)} = \frac{48151}{825423} = 5.83\%$

Total Operating Expenses $_{(2005)}$ = 64,833 million cedis

Total Assets $_{(2005)}$ = 969,690 million cedis

Expense Management $_{(2005)} = \frac{64833}{969690} = 6.69\%$

Total Operating Expenses $_{(2006)}$ = 86,480 million cedis

Total Assets $_{(2006)}$ = 1,570,675 million cedis

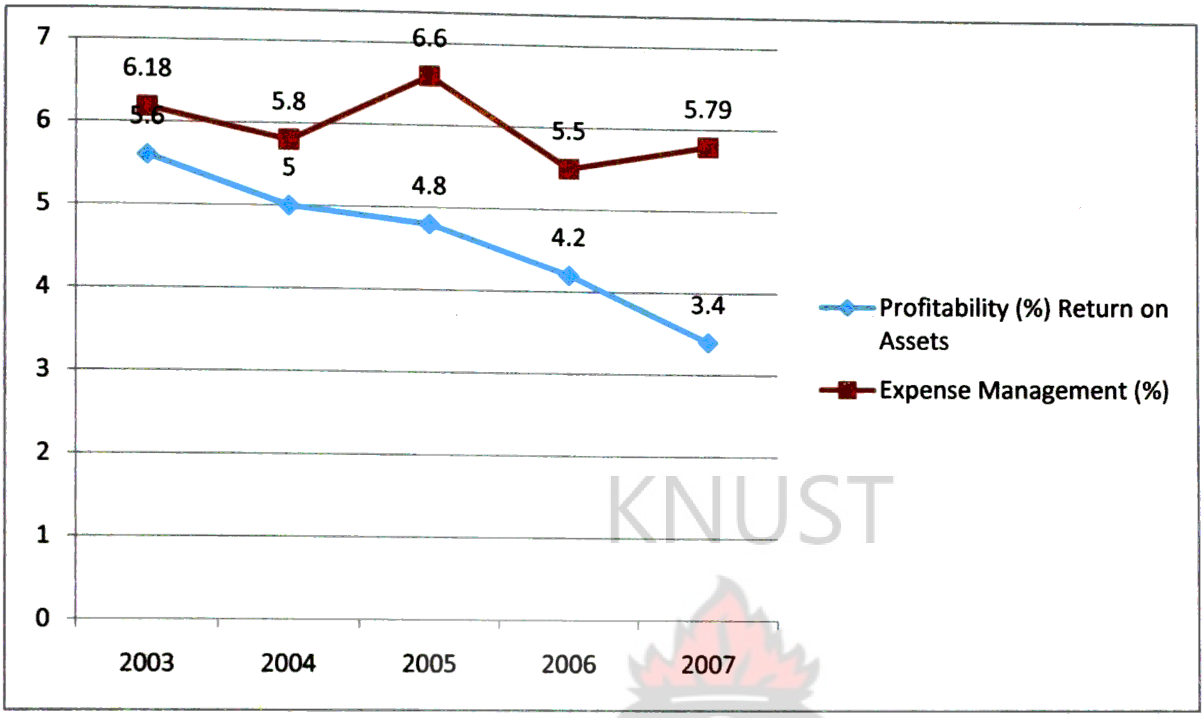
Expense Management $_{(2006)} = \frac{86480}{1570675} = 5.5\%$

Total Operating Expenses $_{(2007)}$ =134,830 million cedis

Total Assets $_{(2007)}$ = 2,330,640 million cedis

Expense Management $_{(2007)} = \frac{134830}{2330640} = 5.79\%$

Graph of Expense Management and Profitability of Cal Bank



The expense management of the bank improved generally going in a downward trend except in 2005. In 2005 operating expenses increased by 34.65%, total assets went up by 17.48%, 17.17% less than the increase in operating expenses. This increase in expense of the bank was accounted for by a 47% increase in the salary component of the total expenses from 2004 to 2005 whiles from 2003 to 2004 it were 28.71%. From 2005 to 2006, the change in salary component was 36%.

Profitability of the bank is expected to have an inverse relationship with expense management i.e. as the value of expense management decreases, profitability is expected to increase. However, this was not observed with the bank. Though the expense management of the bank generally improved, profitability did not increase. The profitability of the bank is not significantly determined by the management of its expenses.

CHAPTER FIVE

5.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

Chapter five summarizes and concludes the study with recommendations made to the organization understudied, Cal Bank. It basically touches on issues concerning factors affecting the profitability of the bank and strategies that can be deployed to its profitability.

5.2 Summary and Conclusion

The main objective of this study was to identify the major underlying factor(s) which are significant in determining the profitability of Ghanaian banks in Ghana's banking industry using the Structure-Conduct-Performance model in which two broad categories of variables were analyzed. These categories of variables are the internal and external determinants of bank profitability. The internal factors were the bank-specific factors which can be controlled by the management of the bank and these variables were selected to reflect the operating efficiency of the bank and its risk management. These variables were capital, expense management, employee productivity and credit risk.

The external determinants were further divided into industry determinants and the macroeconomic determinants of profitability. The industry determinant selected for this study was market concentration for the banking industry deposits to enable the determination of the effect of competition on the profitability of the bank and this was determined by the Herfindahl-Hirschmann index. The macroeconomic determinant selected for this study was inflation. Inflation was selected because it informs the interest rate and accurate determination of inflation important is important in order not to over-price loans originating from the bank in order to stay competitive. It is also important to maintain a balanced position such that inflation does not reduce the real income of the bank.

From the results of the analysis, it is seen that, the significant determinant of the profitability of the bank is the degree of concentration in the deposits market of Ghana's banking industry. This is depicted by the graph of profitability in relationship with the industry concentration and the bank's market share of industry deposits. As concentration increased during the period under study from 2003 to 2007, the bank's share of industry deposits and its profitability continued to decrease reflecting an inverse relationship between industry concentration and profitability.

Bank deposits are liabilities incurred by banks which are transformed into interest-bearing assets which serve as the main source of banks income. Therefore, decreases in deposits impact on the profitability of the bank.

H_i refers to the Herfindhal-Hirschmann index which is an indicator for industry competition for Year 1, Year 2, Year 3,...........Year *n*. The smaller the index, the greater the competition.

The findings of this research fall in line with the Structure-Conduct-Performance model which asserts that there is a direct relationship between the degree of market concentration and the degree of competition among firms. According to Shaik *et al*, 2006, he states that the hypothesis will be supported if positive relationship between market concentration (measured by concentration ratio) and performance (measured by profits) exist, regardless of the efficiency of the firm (measured by market share). Thus, firms in more concentrated industries will earn higher profits than firms operating in less concentrated industries irrespective of their efficiency. This is evident in Table 1 in which the Returns-on-Assets of the bank reduced continuously from 2003 to 2007 as the concentration in the deposits market reduced.

The results of this research are also supported by the findings of a study conducted by Nzongang and Atemnkeng, in 2006 on the market structure and profitability performance of commercial banks in Cameroon. The results indicate that the market concentration power is of paramount importance in the determination of bank profitability. Bank loans are expected to be the main source of income and are expected to have a positive impact on bank performance. Other things constant, the more deposits are transformed into loans, the higher the interest margin and profits (Naceur, 2003)

The findings of this research are supported by the findings of Wilson A. Alley (1993). He tested the hypothesis that Japanese banking performance in a result of efficiency and should be identified by the efficiency structure hypothesis instead of the SCP hypothesis. The findings of his analysis support Structure-Conduct-Performance theory.

Other researchers such as Bain, 1951; Gilbert, 1984; Smirlock , 1985; Evanoff and Fortier, 1988; Clark,1986; Molyneux and Forbes, 1995 state that Market structure in highly concentrated markets is believed to have a positive effect on corporate profit. However, high degrees of market share concentration are inextricably associated with high levels of profits. The disadvantage of such a phenomenon is commercial banks are the primary suppliers of funds to business firm, the availability of bank credit at affordable rates is of crucial importance for the level of investments of the firms, and consequently, for the health of the economy. In situation of increased concentration, the possibility of rising costs of credits is reflected to a reduction of the demand for bank loans and the level of business investments (Civelek and Al-Alami, 1991). The effect multiplies many folds in as much as bank management capitalizes on the market share concentration factor (Nzongang and Atemnkeng, 2006).

5.3 Recommendations

Based on the findings of this work, it is recommended that the bank adopts appropriate strategies to prevent further reduction in the market share of the industry's deposits and pursue strategies that will increase deposits. This can be done by developing products that will attract and keep clients better and faster than other competitors do. This may require investment in research and development for the bank and improving employee skills or recruiting highly skilled personnel. Since banks operate by transforming liabilities (deposits) into interest-generating assets (loans), the volume of loans and corresponding interest income generated very much depends on how much deposits the bank is able to mobilize.

As the Ghanaian banking industry is still growing, there is the risk of further losing ground in the deposits market share if appropriate measures are not adopted.

Secondly measures should be taken to improve on employee productivity since this variable though not significant enough to be captured in the analysis was indicated as the next most significant variable after the industry concentration.

From Table 1, it is observed that equity does not appreciate as much as the total assets of the bank thus resulting in a gradual decline in the equity to asset ratio of the bank and this may in future affect the operations of the bank since the assets serve as the real operation muscle of the bank.

Further research should be undertaken into the nature of competition in Ghana's banking industry and how banks can leverage their resources in obtaining greater market share.

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